

What is claimed is:

1. A method for authenticating a roaming device with a network, comprising the steps of:
generating, by an authentication server of the network, authentication data associated with the roaming device;
sending the authentication data to access points of the network, the access points being connected to the authentication server; and
when the roaming device roams to a particular access point of the access points, using the authentication data to locally authenticate the roaming device at the particular access point.
2. The method according to claim 1, further comprising the step of:
storing the authentication data in a memory arrangement of each of the access points.
3. The method according to claim 1, wherein the sending step includes the substeps of:
encrypting the authentication data; and
sending the encrypted authentication data to selected access points of the access points.
4. The method according to claim 3, wherein the sending step includes the substeps of:
determining at least one access point of the access points where the roaming device is likely to roam; and
sending the encrypted authentication data to the at least one access point.
5. The method according to claim 3, wherein the sending step includes the substep of
sending the encrypted authentication data to all the access points.
6. The method according to claim 1, further comprising the preliminary steps of:
determining if the particular access point has authentication data associated with the roaming device;
if the determination is positive, proceed to the step of using the authentication data to locally authenticate the roaming device at the particular access point; and

if the determination is negative, proceed to the step of generating, by an authentication server of the network, authentication data associated with the roaming device.

7. The method according to claim 6, wherein the step of using the authentication data to locally authenticate the roaming device further comprises reassociating the roaming device with the particular access point of the access points by exchanging identification information.

8. The method according to claim 7, wherein the reassociating step further includes the substeps of :

searching a memory arrangement of the particular access point for the authentication data associated with the roaming device; and

if the authentication data is found, performing a mutual authentication procedure between the roaming device and the particular access point.

9. The method according to claim 1, wherein the generating step further includes the steps of:

receiving an encrypted authentication request from the roaming device;

determining that the roaming device can be granted access to network services; and

generating an encrypted session key associated with the roaming device in the authentication server.

10. A method for authenticating a roaming device with a network, comprising the steps of:

connecting the roaming device with an authentication server upon a contact of the roaming device with a first access point of the network;

authenticating the roaming device with the authentication server;

generating authentication data for the roaming device;

distributing the authentication data to the first access point and a second access point of the network; and

locally authenticating the roaming device upon a contact with the second access point using the distributed authentication data.

11. The method according to claim 10, further comprising the step of:
authenticating the roaming device with the authentication server if the local authentication of the roaming device fails.
12. The method according to claim 10, wherein the distributing step further includes the substep of:
distributing an encrypted session key to the first and second access points.
13. The method according to claim 10, wherein the locally authenticating step further includes the substeps of:
exchanging identification data between the roaming device and the second access point;
and
correlating the identification data with the distributed authentication data.
14. The method according to claim 10, further comprising the step of:
establishing a shared secret encryption between the authentication server and the first and second access points.
15. The method according to claim 10, wherein the authentication server is a remote authentication dial-in user server.
16. A system for authenticating a roaming device with a network, comprising:
an authentication server connected to the network; and
first and second access points connected to the authentication server, the first and second access points being capable of communicating with the roaming device, each of the first and

second access points including a memory arrangement capable of storing authentication data corresponding to the roaming device,

wherein the authentication server sends the authentication data to the first and second access points upon an initial authentication procedure of the roaming device with the first access point, and

wherein the second access point locally authenticates the roaming device upon a contact of the roaming device with the second access point.

17. The system according to claim 16, wherein the second access point authenticates the roaming device with the authentication server if the authentication data is not found in the memory arrangement of the second access point.

18. The system according to claim 16, wherein the second access point authenticates the roaming device with the authentication server if the local authentication of the roaming device at the second access point fails.

19. A method for authenticating a roaming device with a network, comprising the steps of:

with an authentication server, receiving an authentication request from a roaming device, the request being encrypted with a first shared code;

with the authentication server, generating a session key associated with the roaming device;

sending the session key to an access point of the network, the session key being encrypted with a second shared code; and

utilizing the session key to authenticate the roaming device at the access point, and to encrypt data exchanged between the roaming device and the access point.

20. The method according to claim 19, further comprising the step of:

sending the encrypted session key to a further access point of the network to authenticate the roaming device at the further access point.

21. The method according to claim 19, further comprising the steps of:
- generating a first key of the session key to perform authentication of the roaming device at the access point; and
 - generating a second key of the session key to encrypt data exchanges between the roaming device and the access point, the second key being different from the first key.

